DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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WASHINGTON DC 20350-2000

OPNAVINST 5200.35A
N8
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OPNAV INSTRUCTION 5200.35A

From: Chief of Naval Operations

Subj: OFFICE OF THE CHIEF OF NAVAL OPERATIONS PERFORMANCE AND PRICING MODEL POLICIES AND PROCEDURES

Ref: (a) The President's Management Agenda of Fiscal Year 2002
(b) DoD 7000.14-R, Department of Defense Financial Management Regulations
(c) SECNAVINST 5200.46
(d) SECNAVINST 5000.36A

Encl: (1) Performance and Pricing Model Process Responsibilities
(2) Performance and Pricing Model Policy
(3) Standard Procedures for Routing Model Accreditation Packages
(4) Template for Requesting Performance and Pricing Model Exemption
(5) Definitions of Terms
(6) Performance and Pricing Models Verification and Validation Template
(7) Model Pricing Validation Team Process for Program Objective Memorandums and Program Review Development
(8) Re-Accreditation of Performance and Pricing Models
(9) Accreditation Levels for Performance and Pricing Models

1. Purpose. To establish policies and requirements for development, accreditation and use of performance and pricing models in the Planning, Programming, Budgeting and Execution (PPBE) process. This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. OPNAVINST 5200.35.

3. Scope and Applicability. Resource sponsors, budget submitting offices (BSO) and model managers should be familiar with references (a) through (d) and review enclosure (1) in its entirety for specific responsibilities in supporting the Navy's performance and pricing models process.

4. Background.

a. References (a) and (b) establish the policy for the Federal Government to focus Federal programs on performance and establish performance measures that are properly integrated into budget submissions and agency management and operation. Office of the Chief of Naval

Operations (OPNAV) performance and pricing models are a means to this end, as these models are used to predict the resources necessary to produce desired program performance.

b. Prior to fiscal year (FY) 2004, some Navy PPBE stakeholders used detailed, but unaccredited, models to develop their program objectives memorandum (POM) inputs while others relied on budgetary level of effort (LOE) projections for this purpose. Since then, Navy resource sponsors and BSOs have used Deputy Chief of Naval Operations, Integration of Capabilities and Resources (OPNAV N8) accredited models to develop POM submissions.

c. Performance and pricing models are used to support resource and requirement sponsor programming decisions for approximately two-thirds of the operation and maintenance, Navy appropriation, along with smaller proportions of other appropriations.

5. Action. This instruction requires resource sponsors and requirement sponsors to develop models used to project the cost for applicable performance outputs. Enclosure (2) provides detailed information regarding the policy areas listed organizations using performance and pricing models must become familiar with its contents.

a. Applicability. All Navy programs using operating (i.e., operations and maintenance, Navy) appropriations with projected annual costs of $50 million or more will be justified using accredited models. Requests for exemptions from the requirements of this instruction will be considered on a case-by case basis. Enclosure (4), subparagraph 3 provides format for such exemption requests.

(1) POM submissions generated without the use of accredited models may lack analytical rigor and can introduce uncertainty as to the validity of the budget submission. As such, these programs are vulnerable to negative resource allocation decisions.

(2) Models owned or sponsored by the Office of the Secretary of Defense (OSD) are exempt from the accreditation process requirements in this instruction.

b. Role in PPBE Process.

(1) Resource sponsors should identify models used in developing POM development briefings.

(2) All programs utilizing the Performance Pricing Model (PPM), as defined in enclosure (4), with annual resources of at least $50 million that are not supported by accredited models must be identified as LOE in the POM development briefings.

c. Model Use and Budget Development. Models should provide information and data directly linked to budget development and useful in the budget formulation process described in reference (c), including preparation of budget exhibits.

d. Performance Levels. Performance level metrics should substantively address the consequences of funding a program at one level versus another and should provide meaningful information to resource sponsors, programmers, BSOs and Director, Fiscal Management (OPNAV N82).

(1) Each performance level description must include a clear summary of the output associated with funding to the model-generated resource level.

(2) In order to attain accreditation, programs must provide a minimum of four clearly defined performance levels.

e. Accuracy. Model managers must demonstrate the accuracy of each model's predictive ability, as well as the currency and validity of the cost factors used by the model at least once annually. This can be done directly with OPNAV N8 accreditation reviewing team or during the model pricing validation team briefing process.

f. Model Validity. Model managers must use traceable inputs when entering data into their model. When exercising the model, outputs that are significantly different from anticipated levels must be investigated to identify the cause and determine measures to correct model design or computations.

g. Model Accessibility. Model managers will ensure that OPNAV resource allocation decision makers have access to models such that OPNAV programmers and budgeters can conduct independent evaluations of model-generated resource requirements. This should be considered when identifying the model's user community and in developing user's guides.

h. Configuration Control. The master version of the accredited performance and pricing models must be maintained by one of the following, depending on the circumstance: model owner, manager or the resource or requirements sponsor. They must provide access to OPNAV stakeholders for independent excursions per subparagraph 5g.

i. Software Standardization. To comply with Department of Defense (DoD) and Department of the Navy (DON) objectives for reducing the number of information technology applications, model managers should ensure standard Navy software is used in developing performance and pricing models. Model managers must ensure functional area managers, described in reference (d), approve of software to be used for developing models.

j. Model Registration. Model managers will ensure accredited models are registered with both the Navy's Modeling and Simulation Resource Registry found on the Navy Modeling and Simulation Office Web site, https://nmso.navy.mil and in the DON Application and Database Management System found on the DON Application and Database Management System Web site, https://www.dadms.navy.mil.

k. Status of Existing Models. All models designated and accredited as performance and pricing models must be submitted for review and reaccreditation per the procedures outlined in the applicable enclosures to this instruction. Director, Assessments (OPNAV N81), in its capacity as OPNAV N8's accrediting agent, will review the current status of all models. If such models cannot demonstrate direct linkage to budget development and usefulness in the budget formulation process, the model will be downgraded to "Partial Accreditation," as defined in enclosure (9) subparagraphs 2a through 2f. Model managers are expected to complete improvement plans to achieve full accreditation.

6. Records Management.

a. Records created as a result of this instruction, regardless of format or media, must be maintained and dispositioned per the records disposition schedules located on the DON Assistant for Administration, Directives and Records Management Division portal page at https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx.

b. For questions concerning the management of records related to this or the records disposition schedules, please contact the local records manager or the OPNAV Records Management Program (DNS-16).

7. Review and Effective Date. Per OPNAVINST 5215.17A, OPNAV N81 will review this instruction annually around the anniversary of its issuance date to ensure applicability, currency and consistency with Federal, DoD, Secretary of the Navy and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim and will be reissued by the 10-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A, paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.

R. B. CRITES
Deputy Chief of Naval Operations
(Integration of Capabilities and Resources)

Releasability and distribution:
This instruction is cleared for public release and is available electronically only via DON Issuances Web site, https://www.secnav.navy.mil/doni/default.aspx.

PERFORMANCE AND PRICING MODEL PROCESS RESPONSIBILITIES

1. OPNAV N8.

a. Develop and issue guidance to ensure Navy resources and requirements are modeled to the utmost practicable extent.

b. Review and approve or disapprove exemption requests, as required.

c. As necessary, provide an annual serial that summarizes projected verification, validation and accreditation requirements; points of contact; accreditation team membership; and any revisions to previously issued guidance or templates.

d. Establish model accreditation teams comprised of representatives from OPNAV N8, Director, Programming (OPNAV N80), OPNAV N81, OPNAV N82 and other subject matter experts as necessary.

e. Assign action officer(s) (AO) to support each model's development, accreditation, re-accreditation and use in the PPBE process. This individual is responsible for providing feedback to model managers as part of the OPNAV N8 model accreditation team (OPNAV N80, OPNAV N81 and OPNAV N82).

f. Serve as the lead branch in OPNAV for model accreditation (OPNAV N81).

g. Monitor models for substantive changes, as addressed in enclosure (8) paragraph 3, which would require emergent re-accreditation (OPNAV N80, OPNAV N81 and OPNAV N82).

h. Monitor the accreditation and re-accreditation status of all OPNAV models (OPNAV N81).

i. Make formal recommendations to OPNAV N8 for model accreditation level. Enclosure (3) will be used for developing and routing this recommendation (OPNAV N81).

j. Ensure that models make valid pricing and pricing methodology assumptions in developing outputs (OPNAV N82).

k. Plan, coordinate, execute and report the annual model pricing validation, team briefings (OPNAV N80, OPNAV N81 and OPNAV N82).

2. Resource Sponsors.

a. Encourage the development and use of models to make resource allocation decisions throughout the PPBE process. Participate in the model development and verification and validation process.

b. Ensure models are credible and provide quantitatively defendable resource allocation trade space.

c. Identify and discuss the use of models in POM and program review development briefings.

d. During POM and program review development briefings, specifically discuss programs with annual requirements over $50 million which do not use an OPNAV N8 accredited model to determine resource requirements.

e. Approve and monitor plans to improve models.

f. Monitor models for substantive changes, as addressed in enclosure (7), which would require emergent re-accreditation.

g. Ensure all models used in making resource allocation decisions are registered in modeling and simulation resource repository and use standard Navy software.

3. BSOs and Principal Administering Offices.

a. Work with applicable resource sponsor(s) to identify and describe programs for which models are to be developed. This should be documented using the template found within enclosure (6).

b. Identify a lead point of contact for each model within the claimancy to coordinate model development and accreditation with OPNAV N8 accreditation team members.

4. Model Managers.

a. Develop and maintain model(s) for which they have cognizance.

b. Develop models using standard Navy software, as practicable. Models must be registered with applicable functional area managers in order to support DON's goal of minimizing the number of information technology systems in the department.

c. Ensure verification and validation reports are submitted as scheduled and anticipated delays are promptly coordinated with OPNAV N81.

d. Prepare briefings and model demonstrations as needed to enable OPNAV N8 to conduct a thorough model accreditation or re-accreditation.

e. Prevent changes to an accredited model, except through the formal process contained in the model's configuration management plan.

f. Ensure OPNAV N81 is advised of any change in contact information.

g. Develop, submit and execute plans to improve accredited models.

h. Monitor models for substantive changes, as addressed in enclosure (8), which would require emergent re-accreditation.

i. Provide annual briefings in support of the model pricing validation team process.

j. No less than annually, demonstrate the accuracy of the model by comparing the model's predicted resource requirements with corresponding execution data. This may coincide with the model pricing validation team briefing process, but should be conducted no later than completion of the model pricing validation team briefings.

PERFORMANCE AND PRICING MODEL POLICY

1. General. The OPNAV performance and pricing models process is established by this instruction. Models help resource allocation decision makers make risk-informed judgments by linking performance to pricing. As such, non-modeled programs are strongly discouraged because they are vulnerable to uninformed resource allocation decisions. Every model used within the scope of this instruction, whether embedded in a larger model, implemented as a stand-alone system or integrated with other models must be verified, validated and accredited as set forth in this instruction.

2. Models used in the PPBE Process. Models are to be used throughout the PPBE process in order to provide greater clarity, confidence in how budget requirements are derived and to assist leadership with determining budgetary decisions and their impact. They will be used to aide in identifying trade space for savings as necessary. The guidelines for models use in the PPBE process listed in subparagraphs 2a through 2f apply.

a. During the planning phase, program managers and BSO should use models to understand their resource requirements.

b. During the programming phase, models are to be used by OPNAV, sponsors and BSOs to assist in the development of POM and program review recommendations and decisions.

c. OPNAV should incorporate the use of models during the budgeting phase to provide Deputy Assistant Secretary of the Navy, Financial Management Budget (FMB) and Congress all necessary reports as part of the President's budget.

d. In the execution phase the actual resource consumption for programs can be and should be used in model feedback loops as both a check to ensure accuracy and to provide a means for improving models.

e. Model managers and resources sponsors, in order to provide the optimum use in supporting PPBE decisions, are strongly encouraged to provide model output in the form of budget justification materials for use in POM, program review, budget development and formulation.

f. POM and program review development briefings must identify models used for making resource allocation decisions or recommendations. This requirement applies to accredited, non-accredited and OSD models used in POM and program review development.

3. Modeling Applicability. All Navy operating (i.e., non-investment) appropriations will be supported by accredited models, unless the affected resource sponsor receives an exemption from OPNAV N8 or it is not feasible to do so, as determined by OPNAV N81 as OPNAV N8's executive agent for model accreditation. Investment appropriations are strongly encouraged to

develop analytically rigorous methods for determining annual requirements; these methods should be identified in PPBE process briefings.

4. Integrated Models. OPNAV is committed to developing resource allocation tools that result from the integration of multiple accredited models. While such models do exist – e.g., flying hours program model and ordnance program optimization model – sponsors are encouraged to pursue wider application and continuous improvement of integrated models in POM and program review development.

5. Minimum Size for Accreditation. Programs with less than $50 million annual resource requirements are not required to complete the accreditation process outlined in this instruction.

6. Exemptions and Exemption Requests. OSD developed models are exempt from the accreditation process discussed in this instruction.

Note: A Navy model that uses an OSD model output as a key driver is not exempt from the guidelines in this instruction, unless OPNAV N8 approves an exemption request. Sponsors or claimants can request exemption from the modeling process. Such requests are submitted to OPNAV N8 for approval or disapproval, via OPNAV N81, using command letterhead. Enclosure (3) is provided for use in developing a specific exemption request. Resource sponsors, BSOs, OPNAV N80, OPNAV N82 and FMB and OPNAV N81 will be copied on all approved (or disapproved) exemption requests.

7. Performance Levels. Performance level definitions should substantively address the consequences of funding a program at one level versus another and should provide meaningful information to resource sponsors, OPNAV N80, BSOs and FMB.

a. The definitions must include both qualitative (e.g., what does this do to the program's ability to satisfy its requirements?) and quantitative (e.g., how much fiscal trade space is available by accepting a given performance level?) elements.

b. Failure to demonstrate the ability to provide a minimum of four clearly defined performance levels will preclude OPNAV accreditation.

8. Model Validity. Model managers must ensure they are using traceable inputs before entering information into their model. They must also remain alert to outputs that significantly exceed anticipated levels. Model managers must ensure a mechanism or process is demonstrated to the OPNAV N8 accreditation team that shows:

a. The relevant range of operation for the model, as defined by the model manager. This is comprised of both qualitative and quantitative definitions and includes the range of expected program.

b. How the model identifies circumstances – and what actions are thereby triggered – when model assumptions are violated or when model output significantly exceeds anticipated levels. The output may be valid, but it may also be due to erroneous input data or assumptions. In other words, the model manager must demonstrate the capability of validating all model inputs and recommendations.

c. How the model's feedback loop can effectively use execution data as part of its feedback loop for ensuring model accuracy and for improving the capability of the model. Model managers must annually demonstrate the accuracy of the model in predicted requirements versus actual resource consumption. This demonstration should be included as part of the annual Model Pricing Validation Team briefings (see enclosure (7)).

9. Accreditation Process. Modeled programs must complete accreditation using the verification and validation report template provided by OPNAV N8. Enclosure (6) contains an example of this template.

10. Accreditation Levels. Enclosure (9) provides definitions for the levels of accreditation along with a matrix that describes the linkage between accreditation levels and the model's usefulness in the PPBE process. The accreditation team will utilize the template within enclosure (6) in making an accreditation recommendation to OPNAV N8.

11. Re-Accreditation. Models will undergo re-accreditation as discussed in enclosure (8) subparagraph 3b(3), using the template within enclosure (6).

12. Configuration Control & Management. Model Managers must ensure:

a. A master version of accredited models is submitted to OPNAV N8. If this is logistically or fiscally impracticable, model managers will discuss in the verification and validation report specific configuration control processes which will prevent improper use of the model in developing resource requirements.

b. Changes to the model must be documented per the configuration management plan and model management section of the model's accredited verification and validation report.

13. Model Pricing Validation Team. The model pricing validation team process will evaluate assumptions, pricing and pricing methodologies contained in models used in POM and program review development. Enclosure (8) paragraph 3 contains details of the model pricing validation team process.

14. Status of Existing Models. The accreditation levels for existing models (i.e., those pre-dating this instruction) are defined in reference (b). Since this instruction outlines a more rigorous standard for performance and pricing models, earlier accreditation results are "grandfathered" only to the extent that they satisfy the revised accreditation level table contained in enclosure (9).

a. OPNAV N8 will review the current status of all models and unless capable of providing budget quality output as defined in enclosure (5), all accredited models will be granted “Partial Accreditation.”

b. Model managers are expected to complete improvement plans to achieve “Full Accreditation.”

STANDARD PROCEDURES FOR ROUTING MODEL ACCREDITATION PACKAGES

1. Accreditation Team.

a. Accreditation team lead is the OPNAV N81 AO.

b. Primary accreditation team members include AOs from OPNAV N80 and OPNAV N82 and FMB.

c. As appropriate, input from model managers and resource sponsors will be incorporated in the accreditation package.

d. The accreditation package will be developed based on the model's V&V report, model demonstration(s) and any other information source applicable to the model.

e. All OPNAV N8 AOs will receive necessary data (e.g., V&V report, demonstration, user's guide or configuration management plan) for providing an accreditation level recommendation.

2. Draft Accreditation Package. A draft accreditation package will be routed through model's OPNAV N8 AOs for their review.

a. Draft Accreditation Package contents:

(1) The final V&V report;

(2) A draft action memo from OPNAV N81 to Assistant Deputy Chief of Naval Operations, Integration of Capabilities and Resources (OPNAV N8B); and

(3) A draft accreditation letter from OPNAV N8B to the resource sponsor.

b. Two weeks should be allocated for reviewing the draft accreditation package. This package should be a culmination of prior V&V Report scrutiny by all AOs and, as such, should not contain surprises to any of the accreditation team members.

c. AO review should focus on ensuring AO's concurrence with wording and using the time to inform the AO's divisional chain of command.

d. Recognizing that delays are possible, reviews will be coordinated at the AO-level. Nonetheless, delays of more than four weeks with a given AO are to be discussed with the performance and pricing model coordinator in OPNAV N81.

3. Final Accreditation Package. After OPNAV N80, OPNAV N81, OPNAV N82 and FMB AOs review, the OPNAV N81 AO will route the accreditation package to OPNAV N8B via the OPNAV performance and pricing model accreditation organization structure.

a. This package will include:

(1) The final V&V report;

(2) An action memo from OPNAV N81 to OPNAV N8B; and

(3) A draft accreditation letter from OPNAV N8B to the resource sponsor. The latter will also be provided in electronic format with the package.

b. As applicable, OPNAV N81, OPNAV N80, OPNAV N82, FMB and the model manager or claimant will be copied on the accreditation letter.

c. The final accreditation package routing should include OPNAV:

(1) OPNAV N81 AO

(2) OPNAV N81 PPM Manager and Coordinator

(3) Force Generation and Readiness OPNAV N81F

(4) Deputy Director Assessment Division OPNAV N81B

(5) Director Assessment Division OPNAV N81

(6) OPNAV N8B

d. The OPNAV N81 approved package will then be forwarded to OPNAV N8B, using the current OPNAV tasking system to track the routing of the package.

e. Routing and review of the recommendation contained in the package is the responsibility of the OPNAV N8 Front Office.

f. The model's OPNAV N81 AO will track the accreditation package after it has been forwarded to OPNAV N8B. This can be accomplished by periodic review of the current OPNAV tasking system.

TEMPLATE FOR REQUESTING PERFORMANCE AND PRICING MODEL EXEMPTION

1. Background. This template is provided for use in providing a formal request for resources to be exempted from the OPNAV requirement to develop performance and pricing models. The spreadsheets and executive summary discussed in this enclosure should be accompanied by a cover letter that is endorsed by the applicable program's resource sponsor(s). The exemption request package will be submitted to OPNAV N8, via OPNAV N81, no later than January of the calendar year. Once exempted from the modeling process, programs are not required to resubmit requests except as solicited by OPNAV N8.

2. Basis for Exemption. OPNAV N8 will consider exemption requests on a limited, case-by-case basis. Circumstances where exemption might be considered includes high cost of model development or sustainment; difficulty of separating modeled resources from other resources within model manager's or sponsor's responsibility; low level of resources in relevant model; and impossibility of quantitatively defining performance levels. Other rationales may also be tendered by sponsors requesting exemption from the model process. Regardless of the basis for requesting exemption, the sponsor must clearly explain why the resources should not be modeled, acknowledging that failure to model results in the effected resources remaining LOE.

3. LOE Program Financial Description. Each BSO will provide a Microsoft Excel spreadsheet for programs intended to be exempt from the performance and pricing modeling requirement outlined by this instruction. These spreadsheets should address annual funding. Each spreadsheet should cover the Future Years Defense Program (FYDP) defined by the relevant budget cycle. Annual funding should reflect those approved in the most recent budget estimate submission to OSD. The structure of the spreadsheet is set forth in Table 4-1 below.

Un-modeled Level of Effort Data Table		
COLUMN	**COLUMN TITLE**	**EXAMPLE**
A	2-Digit BSO Code	19, 60, 22
B	Appropriation Short Title	Operation and Maintenance OMN, Operation and Maintenance Navy Reserve (OMNR), OPN, etc.
C	BSO Organization Name	NAVAIRSYSCOM, LANTFLT, BUPERS
D	Budget Line Item	OMN, MNR = AGSAG APN, OPN, WPN = LI RDTEN = PE
E	Research Development Testing & Evaluation (RDTEN) Project # or O&MN SI Code	As applicable
F	Program Element #	0204311N

G	Program Name	Air-Launched Missile Rework
H	Activity Name (optional)	Advanced Medium-Range Air – to-Air Missle (AMRAAM), SIDEWINDER
I	Model Manager Code	OPNAV N41, Program Manager Ships (PMS) 495, etc.
J thru Q	Annual budget level Then Year $Thousand (TY$-K), for the FYDP, including prior year, current FY and FYDP year	

Table 4-1: Un-modeled Level of Effort Data

4. Program Description. BSOs (or sponsors) will provide a 1-page executive summary to OPNAV N81 that includes a description of each LOE program for which exempt status is being requested. This summary will be an attachment to the cover letter referred to in enclosure (3) and will describe:

a. How the program manager determines requirements;

b. Major program components;

c. Data sources (and how they have been validated);

d. How the program manager prices requirements;

e. An explanation of why the program should not be modeled; and

f. An explanation of the risks of under-funding the program.

DEFINITIONS OF TERMS

1. Accreditation. The independent determination that a model or simulation is acceptable to use for a specific purpose, for instance to make planning, programming and budgeting decisions (or recommendations). In other words, "Should the model be used?"

2. Budget Quality Output. Describes model output that is in the format and detail outlined in reference (b). This data is suitable for use by OPNAV N82 and FMB in making resource allocation recommendations.

3. LOE. A process by which a program or collection of programs, develops resource requirements based largely on historical Planning, PPBE data, adjusted for changes in rates, inflation or other factors. Generally, LOE-derived resource requests provide very little insight for making risk-based resource allocation decisions.

4. Non-Modeled Program. Programs with annual resources greater than $50 million that have not completed accreditation as discussed in this instruction. While some of these programs may use legacy models – and hence are not strictly LOE programs – lack of accreditation hinders corporate use of the model throughout the PPBE process and is thus discouraged.

5. Performance Levels. Objective and quantifiable model characteristics which are defined and agreed upon by model stakeholders and reflect the model manager's assessment regarding the purpose of, requirements for and risk-bearing capacity of their program. Performance levels should help identify risk-based fiscal trade space.

6. Performance and Pricing Models. Analytical tools used to relate costs to performance levels for a given Navy program or collection of programs. These models should enhance the ability of Navy corporate leadership to make risk-informed resource allocation decisions. Performance and pricing models should be used to determine resource requirements based on OPNAV accredited output metrics and performance goals.

7. Program. A grouping of resources associated with mission(s) for which a responsible Navy entity has management or executive responsibilities. Examples include flying hour program, ship operations, base operating support and countless others. Programs may be described by budget line item, program element, appropriation or any combination. Program descriptions must be explicit in identifying the fiscal scope and the qualitative responsibility of the program managing organization, with respect to the specific program.

8. Verification. The process of determining that a model or simulation accurately represents the developer's conceptual description and specifications. In other words, "Was the model built correctly?"

9. Validation. The process of determining the degree to which a model or simulation is an accurate representation of the real world, from the perspective of the intended users. In other words, "Was the right model built?"

10. Operating Appropriations. Includes operation and maintenance, Navy; operation and maintenance, Navy Reserve; military personnel Navy; Reserve personnel Navy; family housing Navy; environmental restoration Navy; and the operations and maintenance portions of National Defense Sealift Fund.

Note: Unless otherwise described, the word "model" should be understood to mean "Performance and Pricing Model" throughout this instruction.

PERFORMANCE AND PRICING MODELS VERIFICATION & VALIDATION (V&V)
VERSION 2.0, FEBRUARY 2004

OVERVIEW

This template will be completed for all models and submitted to the performance and pricing model accreditation authority Deputy Chief of Naval Operations, Integration of Capabilities and Resources (OPNAV N8). Attach all documentation that supports user's V&V effort. More details can be found in SECNAVINST 5200.46. In the context of programming and budgeting, the purpose of conducting a verification, validation and accreditation is to establish confidence or trust in the model or methodology being used to generate requirements. The V&V template is a tool to collect the evidence necessary to establish the credibility of the model for its specified use.

Date of completion for this report: _____
Responsible author: _____
Author's organization: _____

Model Identification

Model name: _____
[Note: This name is automatically placed in each page footer when the document is printed.]

Version or release: _____

Responsible verification agent: _____
Agent's organization: _____
(Identification of the individual responsible for managing the verification effort and compiling the results)
Responsible validation agent: _____
Agent's organization: _____
(Identification of the individual responsible for managing the validation effort and compiling the results)

V&V Team Information (name, organization, phone and e-mail):

Proponents and owners:
Users:
Independent agent (if applicable):

Name	Organization	Phone	Fax	E-mail

Table 4-2: V&V Team Information

Model Description and Background

Fully understanding the modeling and simulation (M&S) development requirements is essential for the verification, validation and accreditation effort. These requirements define the functionality and capability, which the user requires of the model or simulation system. They also serve as the foundation against which the simulation will be verified and validated.

Please identify the acronyms used in describing the model anywhere within this completed template.

Acronym List	
ACRONYM	EXPLANATION

Acronym List Table 4-3

Briefly describe the model or simulation and the program(s) the model supports.

Is this a new model, legacy model (detail the extent of the verification, validation and accreditation actually performed or indicate "model used for x years with little or partial verification, validation and accreditation"), a model still under development or a change to an existing model?

What is the history behind development of the model?

Summarize aspects of either past V&V or past M&S or both that may impact accreditation. Provide a copy of any verification, validation and accreditation documentation. If the model has been formally accredited or otherwise formally approved for a specific application or set of applications, provide the documentation demonstrating formal accreditation or approval.

Who uses the model? Is the model designed and developed for the level of competency of the user for its intended purpose? Are there supporting documents such as user's manual, technical manual and reference guide? Please either attach copies to this template or provide references.

Describe the model's linkage back to approved OPNAV goals. Typical references include sections of documents such as: Strategic Planning Guidance, fleet manning documents, DoD Instructions, etc. If OPNAV goals have not yet been established, state so and provide any plans in place to create them.

Define the model's performance levels, components of the performance levels and describe how they were developed. Demonstrate how the model is linked to readiness or other performance

metrics. Ideally, performance models should have at least four performance level options. If the model does not have at least four performance levels as a result of an issue specific to the program, see the OPNAV N81 model representative before continuing with this V&V.

Additional comments:

Conceptual Validation. The conceptual model serves as a bridge between the defined requirements and the M&S design, providing the developer's interpretation of the requirements to which the model or simulation will be built. The conceptual model is a statement of assumptions, algorithms and architecture that relates the elements of the model to one another for the intended applications of the models or simulations.

Was a conceptual model developed prior to developing the model? Provide a graphic representation of the model with a written description explaining the process.

Drivers: List and describe the model drivers. Examples of model drivers include -- but are not limited to -- assumptions, OSD, United States Navy, United States Marine Corps policies and guidance and output from other models.

Identify the key drivers in table 4-5 and describe why they are significant. Complete a key drivers V&V page for these key drivers (attached at the end).

Are the assumptions, policies or guidance represented by input variables or are they fixed? Who determines whether to accept or changes these drivers?

If output from other models is used, provide verification, validation and accreditation or other documentation that validates the use of this input.

Components: What budget categories are considered to be separate model components? Model components represent categories and sub-categories for which separate cost estimates are produced. Examples of model components include: Personnel (direct and indirect), projects or contracts, materials, equipment, maintenance, etc. If a plan of action and milestones (POA&M) has been generated addressing the future modeling of components, please attach a copy to this template.

List and describe the model components. Include a short name for each component and use the short name in column one of the table in paragraph (2):
Provide the program's total obligation authority in tabular format (see table 4-4).
In the first column list the model components and any associated subcomponents. List all subcomponents as a separate row entry.
In the second column, list the dollar amount allocated to each respective component and subcomponent.

In the third column list the percentage of the component that is explicitly modeled (in terms of the portion of the total dollar amount attributed to that component). For example, if the personnel component of a program is allocated $100 million (see Component 1 in table 4-4) and $20 million of that amount is modeled using a cost estimation model with the remaining $80 million estimate based on a level of effort approach, then the column three entry would be 20 percent.

In the fourth column briefly characterize the modeling approach or lack thereof, used for the component. If a component is not modeled, explain the reason and any steps in place to model those components. Include supplementary notes for clarifications or amplifying information if needed.

Component Key Driver(s) Table Example			
Component (short name)	Total Cost Estimate	Percentage of the Component modeled	Modeling Method
Component 1	$100M	20 percent	Cost estimating relationships
Component 2	$240M	75 percent	Price History and Analogy
Subcomponent 2.1	($120M)	50 percent	Price History and Analogy
Subcomponent 2.2	($120M)	100 percent	Engineering Estimate
Component 3	$60M	0 percent	Not modeled – Level of Effort
TOTALS	$400M	50 percent - weighted average of Total Cost Estimate	

Table 4-4: Component Key Drivers Example

Component (short name)	Total Cost Estimate	Percentage of the Component modeled	Modeling Method
TOTALS			

Table 4-5: Component Key Driver Listing

Outputs: What does the model actually produce?

List and describe the model outputs:

Demonstrate how the model outputs provide information relevant to resource allocations. Does the model have the ability to determine the requirement and price beyond the programmatic level down to the claimant or activity level?

Have metrics been developed to benchmark performance and pricing against industry standards or other accepted standards?

Describe any additional steps taken to validate the conceptual model.

Outcome (only required for models currently under development):

Describe corrective actions planned if results not satisfactory, leading to a repeat of this validation for a later model version; or, indicate a determination that results are satisfactory; or, document any modeling workarounds planned that will avoid or minimize impacts from unsatisfactory results at this stage and will allow the work to proceed.

Additional Comments:

Design Verification

The M&S functional design is verified against the conceptual model to ensure that it accurately reflects the validated concept and associated requirements.

Was design verification done during the model development process? Provide a graphical representation of the model's design with a description. Identify the source of the diagram (e.g., derived from original source material, developed as part of the V&V process).

Demonstrate how the design meets the purpose, objectives and requirements developed in the conceptual phase.

Describe any additional steps taken to verify the model's design.

Outcome (only required for models currently under development).

Describe corrective actions planned if results not satisfactory, leading to a repeat of this validation for a later model version; or, indicate a determination that results are satisfactory; or, document any modeling workarounds planned that will avoid or minimize impacts from unsatisfactory results at this stage and will allow the work to proceed.

Extent of Previous V&V:

If a V&V process has been performed, detail the scope of the V&V performed to date. This includes the portion or percentage of the model, which has been reviewed or examined as part of

the formal V&V process. The following list illustrates examples of ways to itemize the scope of a typical V&V process:

____Percent of code reviewed or subjected to static test methods, etc.
____Percent of models, functions and etc. demonstrated to perform as expected.
____Percent of boundary condition inputs examined.
____Percent of input range examined in results validation.
____Percent of inputs for which credible or authoritative data sources were identified.

Additional Comments:

System Verification

System verification is the formal (i.e., documented) test and review process by the M&S proponent responsible for determining that the M&S accurately represents the functional design and has traceability to the conceptual model and the system requirements.

Model Design: Explain the model's design.

Provide a high-level diagram of the model as used, depicting inputs, outputs, process elements, performance feedback loop(s) and cost feedback loop(s).

Describe the process of how the model works, referring to the diagram produced that provides a high-level diagram of the model. Ensure program-specific terms and acronyms used are included in the glossary of terms for the model. Provide in the discussion any important assumptions and key algorithms used by the model. Ensure the appropriate elements identified are addressed in the description:

How are performance and pricing determined during the programming phase and how do these two elements of the model interact?
How does actual execution data, both pricing and performance, feed back into the model? How is the model changed to reflect this data?

Demonstrate how the model is linked to readiness or other performance metrics.

Where and how are the results of the model incorporated into the Program and Budget Information System?

What policies influence or constrain the model's design?
How are the various model processes depicted in the design diagram implemented in the working model (e.g., electronic spreadsheets, Web-based data entry and collection, manual data calls, Java code, .net architecture)?

Is the output artificially constrained by budget or financial considerations?

What test procedure is used to demonstrate model compliance to requirements? Provide documentation or test results.

How susceptible is the output to fluctuations across models or tools within and outside the system?

Describe any additional steps taken (not included in the requested information for the model) to validate the conceptual model.

Outcome.

Describe corrective actions planned if results not satisfactory, leading to a repeat of this validation for a later model version; or, indicate a determination that results are satisfactory; or, document any modeling workarounds planned that will avoid or minimize impacts from unsatisfactory results at this stage and will allow the work to proceed.

Additional Comments:

Results Validation

Results validation by the M&S proponent or owner is the formal (i.e., documented) test or review process that compares the responses of the M&S with known or expected behavior from the subject it represents, in order to ascertain that the M&S responses are sufficiently accurate for intended uses.

This step can only be completed if real world data is available. For instance, if there is a model that was used for the first time in POM-19), real world data will not be available until execution data is available at the end of Fiscal Year 2021. Full accreditation requires that results validation be completed.

Provide documentation comparing the model's actual results to the expected results.

What errors were found and how were they corrected?

Describe any additional steps taken (not included in the comparison of the model's actual result to the expected results documentation or with the response to what errors were found) to validate the conceptual model.
Summarize conclusions reached. Describe corrective actions planned if results not satisfactory, leading to a repeat of this validation for a later model version; or, indicate a determination that results are satisfactory; or, document any modeling workarounds planned that will avoid or minimize impacts from unsatisfactory results at this stage and will allow the work to proceed.

Note: If this step cannot be completed because real-world data is not available, describe the actions that will be taken to complete. What actions will be taken to incorporate any changes between system and results validation (fund migration, unexpected events during execution, changes in performance goals, etc.)?

External Feedback (for ongoing validation): Demonstrate how the Navy's accounting system does or does not allow for the ability to track amount programmed vs. amount budgeted vs. amount executed for the model. What changes are required to the accounting system if it does not support your model from programming through execution?

Subject Matter Expert (SME) Involvement: If SME assessments were substantially used as the basis for model or data correctness or acceptability, identify the SMEs and document their credentials in this section for Subject Matter Expert (SME) of the model documentation.

Additional Comments:

Configuration Management Plan and Model Management

System Configuration Management is the process through which model upgrades, changes and maintenance are recorded, communicated and controlled. A written configuration management plan is required for full accreditation.

Is there a written configuration management plan that addresses the model upgrades, changes and maintenance are recorded, communicated and controlled? If so, please attach; if not, when will the written plan be complete?

Describe the process for suggesting, adjudicating and prioritizing changes to the model. Discuss the methodologies to ensure changes are documented, tracked and version control is observed?

Who approves changes to the model?

Is there a method to report status of these changes to those who have an interest?

Are there requirements management to ensure improvements and modifications are made according to the priority of the requirements?

What resources exist for life cycle support of the model? Have resources been identified and allocated?
How will the model's output be subject to periodic reviews and evaluation?

List and describe and additional configuration management or model management elements.

Accreditation Report Evaluation Summary

The information provided in the preceding sections forms the basis for the accreditation recommendation. This section lists the evaluation categories and evaluation criteria against which the model will be rated. As such, this section provides an opportunity to include amplifying information, not previously captured, which may affect the ratings assigned.

Performance Goals

Criteria	Rating Scale
For each program, modeled components are linked to OPNAV Performance Goals.	GREEN: Linked to OPNAV goals
	YELLOW: OPNAV goals not yet established
	RED: Not linked to OPNAV goals

Table 4-6: Performance Goals Criteria

Provide any information not previously provided that may affect the accreditation rating assigned for performance goals, immediately after Table 4-6 Performance Goals Criteria Table

Performance Levels

Criteria	Rating Scale
For each program, the model produces costs for at least 4 performance levels.	GREEN: Model has four or more performance levels
	YELLOW: Model has 2 or 3 performance levels
	RED: Model produces only the full cost

Table 4-7: Performance Levels

Provide any information not previously provided that may affect the accreditation rating assigned for the model's performance levels, immediately after Table 4-7 Performance Levels.

Key Drivers

Criteria	Rating Scale
For each program, key drivers (data, assumptions and guidance) are credible and subject to review and revision.	GREEN: All data is valid or certified
	YELLOW: Most data traceable to certified source; data reviewed
	RED: Key drivers are arbitrary or best guess, data not reviewed

Table 4-8: Key Drivers Table

Provide any information not previously provided that may affect the accreditation rating assigned for the model's key drivers, immediately after Table 4-8 Key Drivers.

Components

Criteria	Rating Scale
For each program, as practicable, all components are modeled.	GREEN: As practicable, all components are modeled
	YELLOW: As practicable, a POA&M is in place to model all LOE components
	RED: No plan exists to ensure all LOE functions are modeled

Table 4-9: Components Table

Provide any information not previously provided that may affect the accreditation rating assigned for the model components, immediately after Table 4-9 Components.

Design

Criteria	Rating Scale
For each program, the model's design (framework, algorithms, data sources and assumptions) accurately reflects the validated concept to produce credible results.	GREEN: The model's design is sound and produces credible results
	YELLOW: The model's design requires some improvements to improve results credibility
	RED: The model's flawed design produces results that are not credible

Table 4-10: Design Table

Provide any information not previously provided that may affect the accreditation rating assigned for the model's design, immediately after Table 4-10 Design.

Configuration Management

Criteria	Rating Scale
For each program, modeled components are supported by a sound written CM plan.	GREEN: CM process for all changes
	YELLOW: Some CM processes for all major upgrades and code changes
	RED: No formal CM process

Table 4-11: Configuration Management Table

Provide any information not previously provided that may affect the accreditation rating assigned for the model's configuration management, immediately after Table 4-11 Configuration Management.

Feedback Loop

Criteria	Rating Scale
For each program, a sound feedback mechanism exists to allow for validating the model's accuracy.	GREEN: Comprehensive feedback mechanism in place
	YELLOW: Partial feedback mechanisms in place
	RED: No feedback mechanism in place

Table 4-12: Feedback Loop Table

Provide any information not previously provided that may affect the accreditation rating assigned for the model's feedback loop, immediately after Table 4-12: Feedback Loop.

User Community

Criteria	Rating Scale
For each program, the model is designed and developed for the level of competency for its intended purpose. The model is supported by documents such as user's manual, technical manual or reference guide.	GREEN: User community has the ability and tools to fully utilize the model
	YELLOW: User community has some of the tools and knowledge to use the model
	RED: User community lacks adequate tools and knowledge to use the model

Table 4-13: Feedback Loop Table

Provide any information not previously provided that may affect the accreditation rating assigned for user community, Table 4-13: Feedback Loop.

Supplemental Information: Attach other supporting documentation that may facilitate the accreditation process. For example, glossary of terms, model design standards, V&V standards, etc.

KEY DRIVERV&V

(Note: Complete a separate form for each key driver. Copy this page to the end of this template as needed.)

The data examination must consider both correctness of the data and its interpretation or translation into M&S parameters.

Date V&V completed: _____
Responsible author: _____
Author's organization: _____

Key Driver (Data Source or Guidance) Identification

Key Driver name: _____
Version or release: _____
Originating organization _____
Point of contact _____

Basis for Confidence in the Data Source or other Document
Briefly describe the key driver (data source or document) and how it is used in the model.
Who owns and maintains this source? What drives their review and update schedule?

Explain why the data source or guidance or instruction document is believed credible (e.g., What makes the data or the guidance authoritative?). Attach any required documentation.

How is the data collected and then tied to the model? Include any data transformations of units or coordinate systems, etc. for data to be appropriate for use as model input.

What are the known limitations and restrictions in the data source?

Is there an evaluation method to ensure data source or other guidance is accurate and correct?
What is the frequency of any evaluations?
In addition to detecting any substantive errors, such evaluations would typically serve to identify and correct or eliminate, typographical errors and other data corruptions, unusual data items, etc.

Describe any weaknesses in the data source or document and how they may influence the outcome of the model. What is the plan to implement corrections to improve credibility?
What is the overall conclusion as to the suitability of data set or report for use with this model?

MODEL PRICING VALIDATION TEAM PROCESS

1. Purpose. To provide model pricing validation team guidance for reviewing key aspects of resource determination for performance or pricing-modeled programs and to identify cost and pricing issues early in the POM development process.

2. Background. Performance and pricing models are expected to facilitate resource decisions. The model pricing validation team process enables a review of cost and pricing issues for various programs and is a necessary step in properly resourcing these programs through the next President's budget submission. The model pricing validation team process supplements the normal POM development and budget formulation. This process identified programs as either "Approved" or "Non-Approved" for budget review purposes. Reference (b) provides guidelines for budget review requirements.

3. Model Pricing Validation Team Review Process. The review will emphasize pricing adjustments in the first and second execution years of the POM being developed. However, pricing disparities in POM out years should also be identified.

a. For each model, the review team will be comprised of the model manager and representatives from OPNAV N8; FMB; Commander, Fleet Forces Command; Commander, Pacific Fleet; and representatives of other Secretariat and OPNAV organizations (i.e., DOPNAV for Manpower, Personnel, Training and Education (MPT&E) OPNAV N1, DOPNAV for Fleet Readiness and Logistics (OPNAV N4) as appropriate). Applicable BSO should also be represented for each model's model pricing validation team briefing. All team members must be familiar with the accredited model and be able to represent their organization in a decision-making capacity.

b. FMB representatives are responsible for ensuring that the cost and pricing factors used in this program and budget cycle are correct and defendable at higher levels of review, using model pricing validation team results and other required exhibits (including Exhibit OP-5 Flying Hours, Exhibit OP-30 Depot Maintenance Program, etc.) that generate budget justification data.

c. OPNAV N81 staff is responsible for verifying that any proposed changes to cost and pricing methodology for determining resource requirements are consistent with or incorporated in, the accredited version of the model.

d. OPNAV N80 staff is responsible for assessing the effect of each Navy program's cost and pricing factors throughout the FYDP.

e. Resource sponsor and fleet staffs are responsible for ensuring the cost and pricing methodology is relevant to the model's performance output in terms of the readiness or service-level requirements, resulting in the assurance that key performance metrics are being used to manage and justify resources requests.

4. Programs Included in Model Pricing Validation Team Process. All accredited models will participate in the model pricing validation team briefing series. Each model manager's presentation should identify the pricing factors to be used in the POM programming and budget development cycle, including the key model parameters that drive resource requirements and their values. The desired outcome of each model pricing validation team brief and review is a resource request that remains valid, flexible and defendable through the budget cycle. Additionally, the model pricing validation team review should establish an agreed upon cost and pricing baseline for assessing risk or readiness outcomes identified in future OPNAV program proposals. The model pricing validation team will provide a cost and pricing review among stakeholders involved in the process. Model managers must ensure the elements listed in subparagraphs 4a through 4f, are included in their model pricing validation team brief:

a. Progress of model development for the program, to include the status of reaching any existing validation date;

b. Validation of significant changes to baseline costs from those used in prior year's POM;

c. Pricing factors used in the model for POM program and budget development cycle;

d. An assessment of the model's ability to respond to risk or readiness outcomes in proposals for the budget years, (i.e., POM-17 includes FY 17 and FY 18 of the POM being developed);

e. Quantify specific categories of funding (i.e., budget line item, program element, special interest sub-program element) identified within the model; and

f. Process by which model outputs are transformed into budget quality format described in reference (b).

Note: Non-accredited models will not participate in the annual model pricing validation team briefing series. Instead, pricing validation must be conducted as part of the initial accreditation process.

5. Model Pricing Validation Team Review Planning. Model managers should limit their presentation to 30 minutes, followed by 25 minutes for discussion. The review schedule and template for model pricing validation team briefings will be published annually by OPNAV N8 serial no later than December. The desired briefing format is Microsoft Power Point, with Excel spreadsheets for back-up data. For all briefs, electronic read-ahead copies should be e-mailed to team members at least 48 hours prior to the scheduled briefing time.

RE-ACCREDITATION PROCEDURES FOR PERFORMANCE AND PRICING MODELS

1. Purpose. To discuss requirements and procedures for re-accrediting performance and pricing models.

2. Discussion. Performance models earn accreditation levels based on the ability of the model to provide valid output that is useful to Navy decision makers and budget managers. Re-accreditation provides a formal means of review by OPNAV to ensure both continuous improvement of accredited models and to prevent inadequate model processes from influencing the POM development recommendations from BSO and resource sponsors.

3. Procedures.

a. Performance and Pricing Models Stakeholders. Stakeholders are responsible for maintaining a culture of review to ensure that problems or issues with accredited models are detected early and resolved quickly.

b. Follow-Up Accreditation. Model managers are expected to continually strive to improve model accuracy and usefulness. This ongoing process likely will cause incremental and possibly substantive changes to the model over time. Also, circumstances may exist that require follow-up accreditation for a performance model to earn or maintain full accreditation. Follow-up accreditations are only required to focus on the changes or actionable recommendations that result in the requirement to be re-accredited; i.e., model managers are only required to revise applicable parts of the V&V that are associated with the specific recommendation(s) from the last accreditation report for follow-on accreditations submitted. Model managers must use the existing verification, validation and accreditation guidance and templates in developing the applicable follow-up accreditation report. These circumstances include:

(1) Outstanding Action Items. A model must undergo a follow-up accreditation if the model's most recent accreditation report included actionable recommendations for enhancements or revisions to the model. Actionable recommendations are those that the accrediting authority has determined essential to meeting full accreditation. For example, an incomplete configuration management plan or an inaccurate pricing methodology will usually result in actionable recommendations.

(2) Not Approved by OPNAV N8 Model Pricing Validation Team. Models that were identified as "non-approved" models in the most recent model pricing validation team briefing series must complete follow-up accreditation before being eligible for full accreditation.

(3) Routine Re-accreditation. All accredited models must undergo a routine re-accreditation every 3 years, unless there have been substantive changes to the model. Such changes are discussed in subparagraph 3b(4) of this enclosure.

Routine re-accreditations must use the most current verification, validation and accreditation guidance and templates and will entail a complete re-evaluation of the applicable model by both the model manager and the OPNAV N8 accreditation team. The 3-year ticker begins on date found on the last accreditation letter from OPNAV N8.

(4) Emergent Re-accreditation. A model must undergo an emergent re-accreditation if there have been substantive changes in its design or use at any time prior to its routine re-accreditation (described in subparagraph 3b(3). Examples of such changes include:

(a) Key Driver Changes. If changes to key drivers are expected to result in inaccurate model output for use in programming or budgetary review cycles.

(b) Model Re-Design. The model has been re-designed or enhanced, including replacement by a newer version that requires the user's manual to be re-issued or a new verification and validation to be performed.

(c) Invalid Feedback Results. A results validation or feedback analysis shows that the model is not satisfactorily accurate for use in budgetary or review cycles or both.

c. POA&M. All model managers must incorporate the requirements outlined within this enclosure into existing or future plans of actions and milestone documentation

ACCREDITATION LEVELS FOR PERFORMANCE AND PRICING MODELS

1. Full Accreditation.

    a. Meets requirements for "Partial Accreditation."

    b. Useful in all phases of the PPBE process.

    c. Less than 20 percent of modeled program is LOE.

    d. Demonstrates ability to trace between programming and budgeting phases of the PPBE process. Model is useful in shaping Navy PPBE budget resource allocation decisions. Model results (output) can be compared to actual execution data.

2. Partial Accreditation.

    a. Useful in all phases of the PPBE process except budgeting.

    b. Less than 33 percent of modeled program is LOE.

    c. Requires separate action to convert model outputs for use in budget resource allocation decisions, including budget quality format.

    d. Must be able to routinely exercise the model's feedback loop.

    e. Circumstances resulting in this level of accreditation include: minor deficiencies in the model's V&V report or untested feedback loop; inadequate user's guide or configuration management plan; minor flaws in the concept or design documentation; incomplete description of the model's components; and other minor flaws that do not substantively impact the credibility of the model's output.

    f. Other circumstances that might result in this level of accreditation include: significant deficiencies in the model's V&V report, including poorly defined or lack of a feedback loop; poorly defined performance levels; tenuous linkage to OPNAV guidance; technical errors in the model's computational aglorithms; or other discrepancies that would seriously undermine the credibility of the model's output.

3. Not Accredited.

    a. Not useful in either the programming or budgeting phases of the PPBE process.

b. Circumstances resulting in this level of accreditation include: insufficient (or poorly defined) performance levels; less than two key drivers; lack of resource sponsor endorsement; failure to link model to OPNAV guidance; more than 33 percent of program(s) modeled are LOE; or any other substantive weakness that would seriously undermine the credibility of the model in providing resource allocation decision insight.

ACCREDITATION LEVEL	PLANNING	PROGRAMMING	BUDGETING	EXECUTION
Full Accreditation	Y	Y	Y (Note 2)	Y (Note 3)
Partial Accreditation	Y	Y	N	Y (Note 3)
Not Accredited	Y (Note 1)	N	N	N
Note 1: Use in PLANNING is optional (OPNAV N8) probably will not use the model)				
Note 2: Must demonstrate traceability between Budgeting and Programming				
Note 3: EXECUTION is integral to providing valid feedback to accredited models				

Table 4-14 Accreditation Level Table